ALESIS

PERFORMANCE Pad

PERCUSSION PAD CONTROLLER AND DRUM MACHINE

REFERENCE MANUAL

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CHAPTER 1: INTRODUCTION

1.1 WELCOME TO THE PERFORMANCE PAD DRUM MACHINE!

The Performance Pad includes over 230 high-fidelity drum/percussion sounds, and is easy to operate. As you strike the 8 drum pads (each of which can be assigned to any of the available sounds), the Performance Pad's on-board computer records exactly when you triggered the drum sound and the dynamics of your playing. You can play back the part, and edit it in various ways.

Data is retained in memory even if the power is turned off. If the memory fills up with drum Patterns and Songs, this data can be saved permanently to MIDI System Exclusive storage devices.

The Performance Pad also includes a library of preset rhythm Patterns prepared by professional drummers for those who want to start creating Songs in the fastest and easiest way possible.

1.2 GROUND RULES

The Performance Pad consists of two main elements:

• The drum sounds themselves, recorded using 16-bit resolution (the same resolution as CDs). For additional realism, many sounds use advanced "dynamic articulation" techniques so that these sounds, when hit loudly, have a different timbre than when they're hit softly.

• An internal computer to control and trigger the sounds. This computer simulates an advanced, easily editable tape recorder.

The Performance Pad offers two main modes, *Perform* (for playback) and *Compose* (for recording). You can switch between these while the Performance Pad is playing, making it easy to test out different sounds without recording them and then drop back into record mode.

1.2A The Pattern/Song Recording Method

When recording with a drum station, it's often easier to divide a song into shorter individual *Patterns* and work on these rather than record an entire song. A typical Pattern might be 8,16, or 32 beats long, and correspond to a verse, chorus, bridge, instrumental, intro, etc. While recording these Patterns, the Performance Pad will be in *Pattern mode*. The Performance Pad holds 50 Preset *(i.e.,* can't be edited) Patterns and 50 user-programmable Patterns, each of which can be from 1 to 128 beats long.

After perfecting these Patterns, *Song mode* offers two ways to create a song:

• Program a list of Patterns, in the order in which they are to be played.
• Select Patterns in real time, and the Performance Pad will remember your performance.

The Performance Pad stores up to 100 User-programmable Songs.

Breaking a song into Patterns saves time since elements of a song often repeat. *Example:* The second verse might have the same drum pattern as the first verse. Rather than record the same Pattern twice, simply record one Pattern, then list it twice when assembling a Song. This also saves memory (thus leaving room for more Patterns and Songs) since listing a Song step takes up much less memory than recording a Pattern.

1.2B The Four Different Types of Patterns

The Performance Pad introduces exciting new Song construction techniques. The Performance Pad excels at live performance—something usually not associated with drum machines. The key to using these advanced features is to understand the different types of available Patterns.

• *Preset* Patterns provide a variety of rock, jazz, pop, and other rhythms programmed by professional drummers.

• *User* Patterns are Patterns you can program, edit, and save. The Preset/User button selects between these two master banks of Presets. The only way to modify a Preset Pattern is to copy it to a User Pattern, where it can be edited.

There are 50 of each type of Pattern, numbered 00-49. However, each numbered Pattern actually contains four different "sub-Patterns":

• A pair of independent *Main* Patterns (A and B, selected by their respective buttons).

• A pair of associated *Fill* Patterns (A Fill and B Fill, selected by pressing the FILL button when either A or B is selected). The Fills primarily provide transitional Patterns between Main Patterns, which makes for more realistic drum parts. The associated Fill Patterns share the same length, Drum Set, and name as their Main Patterns *(e.g.,* if A is 16 beats, A Fill is 16 beats). Otherwise, they are independent.

The reason for pairing the two different A and B Patterns together is simply so that you can switch back and forth between them rapidly in live performance or while improvising. However, A and B Patterns can be treated as completely independent Patterns if desired and can have different lengths, Drum Sets, etc.

Always think of the Main Pattern and its associated Fill as a unit. For example, if you copy a Main Pattern to another Main Pattern, its Fill will travel along with it.

Note that even though there are "only" 50 Patterns, the A and B variations double that to 100 Patterns, and the Fills double that again to 200 Patterns. Added to the Preset Patterns, 400 total Patterns are available.

1.2C How "Looping" Simplifies Recording

To simplify recording in Compose mode, a Pattern will "loop" over and over again. *Example:* Suppose you want to record an 8-beat pattern. While recording, the pattern will record through all 8 beats, then immediately jump back to the beginning and continue recording through all 8 beats again. The Performance Pad will remain in record mode, and continue to loop, until you press STOP or switch over to Perform mode. You will hear any previously-played parts as you record new parts. You can also erase drum hits while the pattern is looping to correct for errors.

1.2D What's a Voice?

Each of the 8 large pads triggers a *voice*. A voice is a sound-generating element with several variable parameters: Drum sound, tuning, volume, output assignment (the voice's audio output can go to either one of two sets of stereo outputs, and furthermore, to anywhere within the stereo field of the chosen set of outputs), and MIDI note number.

Each pad is *velocity-sensitive:* the harder you hit the pad, the louder the drum sound assigned to the pad will play. Thanks to the dynamic articulation techniques mentioned earlier, the timbre will often change as well, just like "real" drums.

There are eight levels of pad volume resolution, from soft to loud. However, when using the Performance Pad as a drum sound expander and triggering sounds via MIDI, they respond to all 127 MIDI volume levels.

1.2E About Defaults

A default is a setting that is automatically assumed until you purposely change it. *Example:* When you turn on a VCR, it automatically defaults to Stop—you have to purposely tell the machine to go into Record or Play. Stop is therefore the VCR's power-up default status.
The Performance Pad includes a default setup that assigns particular drum sounds to particular voices (pads), at certain level and pan settings. The default drum sound assignments are explained. However, you can change these defaults and come up with any type of "drum set" you'd like.

Defaults save time by giving you a setup that's instantly ready to go; sometimes you'll need to change only a few parameters to customize the default setup to your liking.

Often the default is "whatever was selected last." *Example:* If the Performance Pad was in Pattern mode and Pattern 23 was selected when you turned off the Performance Pad, the next time the Performance Pad powers up it will be in Pattern mode with Pattern 23 selected.

1.2F Physical Layout

The Performance Pad includes seven main types of controls, along with a group of connectors (located on the back panel). The control groups (see diagram) are:

• *Pads.* Striking each pad triggers a voice.

• *Function buttons.* These six buttons select various functions, some of which include multiple "pages" of options.

• *Tempo/Page buttons.* These alter the tempo and also select different "pages" present in the Drum Set, Record Setup, MIDI Setup, and Util functions.

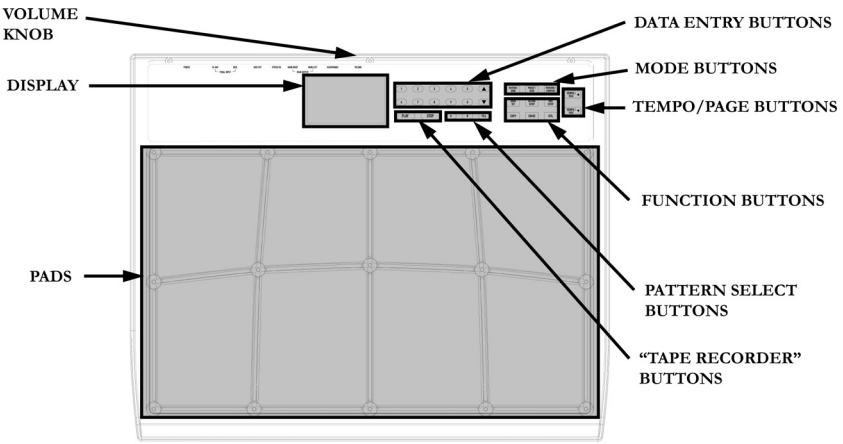
• *Pattern select buttons.* These choose between the A, B, and Fill variations for a Pattern.

• *Mode buttons.* These choose between Pattern and Song modes, Perform (playback) and Compose (record) modes, and the Preset and User patterns.

• *"Tape recorder" buttons.* These control playback and stop, and work similarly to a tape recorder.

• *Display and data entry buttons.* The display informs you of the instrument's status, and also prompts you for data from time to time. A detailed description of the display follows shortly. The data entry buttons include number entry buttons (0-9) and up arrow (increment, or INC) and down arrow (decrement, or DEC). The latter increase or decrease parameter values on step at a time.

• *Volume knob (on back of Performance Pad).* This knob regulates the volume of the entire unit.



1.2G Display Layout

The LCD is divided into several "windows." Each window contains information that helps you monitor the Performance Pad's status, and/or indicates what type of data should be entered.

• *Name, "dialog" box, real time Song/Pattern readout, beat counter.* This is the most commonly-used area of the display. It shows Pattern and Song names, the beat counter if a Pattern or Song is playing, and the Pattern (including A/B/Fill/Preset or User designators) that is currently playing in Song mode. When acting as a "dialog box," it lists parameters and the value to be edited *(e.g.,* MIDI channel and the channel number).

• *Pattern/Song readout (also Drum Set edit and drum pad readout).* This shows the selected Song or Pattern number; with Patterns, the A/B/Fill/Preset or User designators are also shown. If you have edited a Drum Set to which a particular Pattern was assigned, the display also shows **DRUMSET EDITED**. In operations that require selecting a drum pad, this window displays the drum pad number.

• *Press PLAY.* For some operations, it is necessary to press the PLAY button to confirm a particular operation, such as copy or erase. This portion of the display will say **PRESS PLAY** if it is necessary to press PLAY to complete an operation.

• *Page number and tempo display.* When stopped or running, this shows the current tempo and includes a visual metronome block that flashes on the beat. For functions that have multiple "pages" of parameters (Drum Set, Record Setup, MIDI Setup, and Util), this portion of the display shows the currently selected page number.

• *Compose/Perform.* This indicates whether the Performance Pad is in Compose or Perform mode.

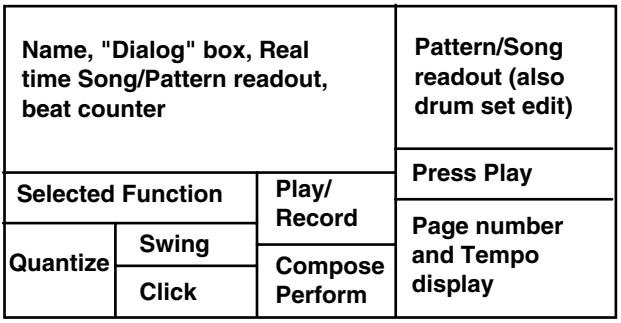
• *Click.* In Compose mode, shows the current click rhythm in standard music notation (or **OFF** if click is off).

• *Quantize.* In Compose mode, shows the current quantization rhythm in standard music notation (or **OFF** if quantization is off).

• *Selected function.* This shows which function is currently selected: Drum Set, Record Setup, MIDI Setup, Util, or Step Edit.

• *Swing.* In Compose mode, shows the current swing rhythm, expressed as a percentage (or **OFF** if swing is off).

• *Play/Record.* If the Performance Pad is playing and in Compose mode, this will say **RECORDING**. If the Performance Pad is playing and in Perform mode, this will say **PLAYING**.



1.2H Text Protocols

Throughout the text, button names are shown in UPPER CASE and words that appear on the display are shown in **BOLD**. When referring to a numbered step in a set of steps, the step number will be in parenthesis—for example, step (4)—to prevent confusion with Song steps or step edit mode.

1.3 IMPORTANT: HOW TO COMMUNICATE WITH THE PERFORMANCE PAD

1.3A The INC/DEC Buttons

The two small buttons with the up arrow and down arrow symbols (next to the number keys) are called the INC/DEC buttons respectively.

Pressing the INC button once increases the value of the *entire number* indicated by the cursor (not just a single digit) by one. Pressing the DEC button once decreases the value of the *entire number* indicated by the cursor (not just a single digit) by one. *Example:* If the display shows 00 and you want to enter 01, tap the INC button once.

These buttons, and the TEMPO/PAGE buttons, also have a "scroll" feature. If you press *and hold* a button, after a short pause the display will either increment or decrement at a rapid rate.

1.3B Buttons that Toggle

The Mode buttons, FILL button, and several function buttons (DRUM SET, RECORD SETUP, MIDI SETUP, and UTIL) "toggle" between two states. Each button press sets the switch to its alternate state. *Example:* Press the PATTERN/SONG button once to change from Pattern to Song; press again to change from Song to Pattern. *Example:* Press RECORD SETUP to call up the Record Setup menu; press RECORD SETUP again to get out of the Record Setup menu.

1.4 10 STEPS TO INSTANT GRATIFICATION (SETUP AND CHECKOUT)

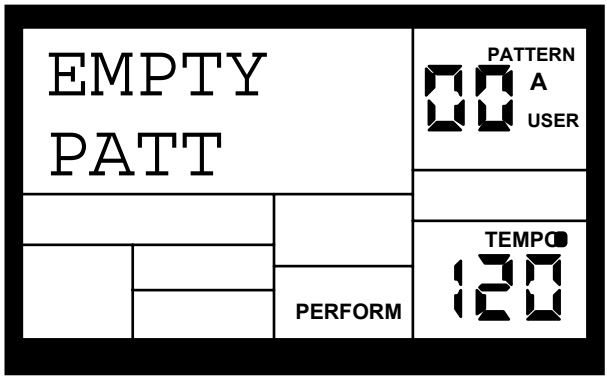
1. Connect the Main outputs (either left or right for a mono monitoring system, or both for stereo) to a high-quality musical instrument amplifier, PA, or plug the included headphones into the headphone output on the back of the Performance Pad. The amp and Performance Pad volume control (on back) should be all the way down (counter-clockwise).

2. Leave the MIDI OUT jack (rear panel) disconnected for now.

3. Plug the Performance Pad's AC adapter into the wall. The smaller plug inserts in the 9V AC Power jack on the back.

4. Turn on the rear panel On/Off switch, then turn on the amplifier.

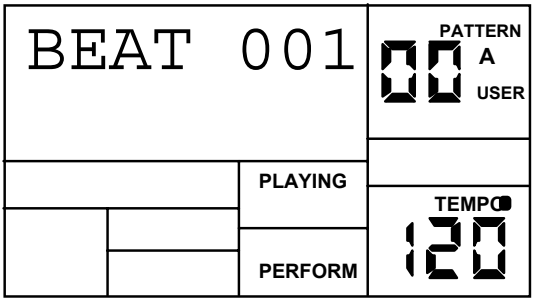
5. The LCD will show a sign-on message. The upper right of the display should say **PATTERN** and not **SONG**; if it shows **SONG**, press the PATTERN/SONG button and the display will show **PATTERN**.



6. Start striking the pads with the drumsticks. Adjust the volume control for a comfortable listening level, and check out the sounds.

7. To hear the built-in demo, hold down the PATTERN/SONG button and press PLAY. To stop the demo, press STOP. If you want to play along with the demo, feel free to bash away on the pads.

8. Press PLAY, and you'll hear a Preset Pattern. (In case the Performance Pad has already been played with, make sure that the display shows **PERFORM** and does *not* show **USER** before continuing. To choose Perform mode, press the PERFORM/COMPOSE button until the Perform/Compose section of the display shows **PERFORM**). To choose Preset rather than User Patterns, press the PRESET/USER button until the display does not show **USER**. If **USER** is not showing, then Preset Patterns are selected.



9. Try the following:

• Enter a two-digit number between 00-49 using the number keys, then press PLAY.

• Press the INC (up arrow) button to select the next higher-numbered Preset Pattern. It will play at the end of the current Pattern.

• Press the DEC (down arrow) button to select the next lower-numbered Preset Pattern.

• Press the B button to select the B variation of the selected Pattern.

• Press the A button to select the A variation of the selected Pattern.

• Press FILL briefly while a Main (A or B) Pattern is playing. Note how the Main Pattern switches from either A to B or B to A after the Fill has played.

• Press FILL and hold it down until *after* the Fill has played. If the FILL button is held down past the next downbeat, the Fill's associated Main Pattern (A or B) continues to play rather than switch from A to B or B to A.

• Press the TEMPO/PAGE buttons to change the tempo.

CHAPTER 2: RECORD SETUP

Several parameters are often adjusted prior to recording a Pattern, such as metronome, Pattern length, etc. General instructions are:

1. Press the RECORD SETUP button.

2. Use the PAGE (up and down) buttons to select different "pages" of functions; the display's lower right window shows the page number. These pages are described below.

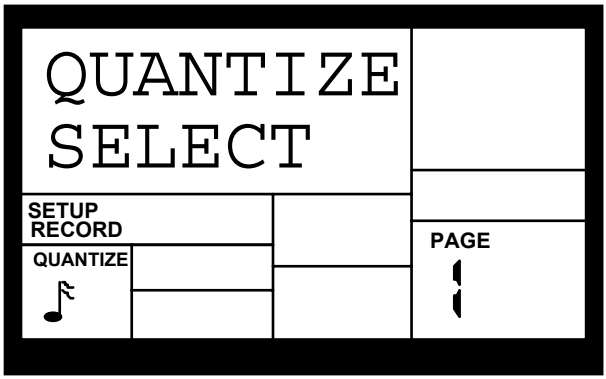
3. Adjust values on pages, if necessary, as described for each page.

4. After making all needed changes, press RECORD SETUP again to exit, or choose another page.

One of the pages, Step Mode, contains several sub-pages.

2.1 PAGE 1: SELECT THE QUANTIZATION VALUE (QUANTIZE SELECT)

The display shows **QUANTIZE SELECT** and a note icon in the lower left Quantize window.



The note icon displays the quantization value in standard rhythmic notation. Enter the desired quantization value with the INC/DEC or number buttons (1 = quarter note, 2 = quarter note triplet, 3 = 8th note, 4 = 8th note triplet, 5 = 16th note, 6 = 16th note triplet, 7 = 32nd note, 8 = 32nd note triplet, 9 and 0 = Off, equivalent to 1/384th note resolution).

KEYPAD		NOTE VALUE		DISPLAY		NOTE NAME
1	=	1/4	=		=	QUARTER NOTE
2	=	1/6	=		=	QUARTER NOTE TRIPLET
3	=	1/8	=		=	EIGHTH NOTE
4	=	1/12	=		=	EIGHTH NOTE TRIPLET
5	=	1/16	=		=	16th NOTE
6	=	1/24	=		=	16th NOTE TRIPLET
7	=	1/32	=		=	32nd NOTE
8	=	1/48	=		=	32nd NOTE TRIPLET
9, 0	=	1/384	=	off	=	384th NOTE

Quantization shifts your playing to the specified beat while you play, so choose the desired value before playing out your rhythms. Remember that you can also change quantization while recording if, for example, you want to record snare with eighth note quantization but high-hats with 16th note quantization.

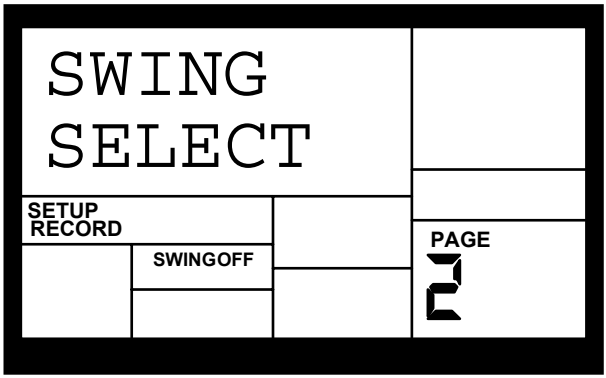
Note: *The quantize value also sets the step length in Step Edit mode (section 2.9).*

Background *As you record a Pattern, quantization shifts all drum events to the nearest selected rhythmic value to eliminate small timing errors. Example: With a quantize value of 1/16, all drum events you play will be shifted to the nearest 16th note.*

Quantization is most effective when used sparingly. If you're recording a drum part, quantize the kick and snare, but try recording the hi-hat in real time (or quantize the hi-hat, and record the snare in real time). Another trick is to combine both quantized and non-quantized parts. *Example:* hand claps often sound too mechanical when quantized—when humans clap hands, you end up with a bunch of different sounds happening within a few milliseconds of each other. A good way to simulate this effect (yet still have a rock-solid rhythm) is to record a quantized hand claps part, then turn off quantization and try to double the part. Sometimes what you overdub will be right on the beat, but sometimes it will be off by just enough to add that human touch.

2.2 PAGE 2: SELECT THE SWING VALUE (SWING SELECT)

The display shows **SWING SELECT**; the Swing window shows the swing value.



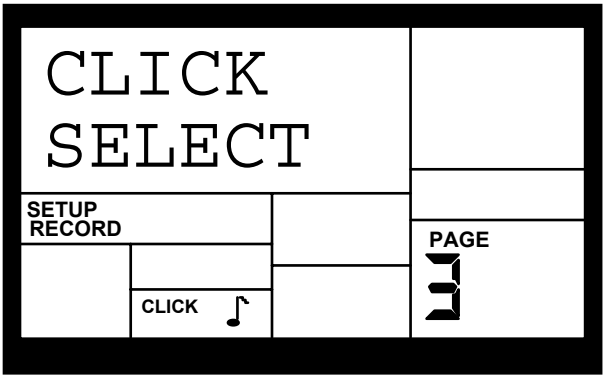
Enter the desired swing percentage with the INC/DEC or number buttons (1 = 54%, 2 = 58%, 3 = 62%, 4-0 = Swing Off).

Swing shifts notes as specified while you record, so choose the desired value before playing out your rhythms.

Background *Swing affects the timing of pairs of equal-value notes. Each note normally defaults to taking up 50% of the total duration of both notes; adding swing lengthens the first note of the pair, and to keep the total duration of both notes the same, shortens the second note of the pair. This imparts the kind of feel found in shuffles and some jazz tunes. Example: With Swing set to 62%, the first note of the pair takes up 62% of the total duration of the pair of notes, while the second note takes up 38% of the total duration.*

2.3 PAGE 3: ENABLE CLICK (METRONOME) AND SET RHYTHM (CLICK SELECT)

The display shows **CLICK SELECT**; the Click window shows the click's rhythmic value.

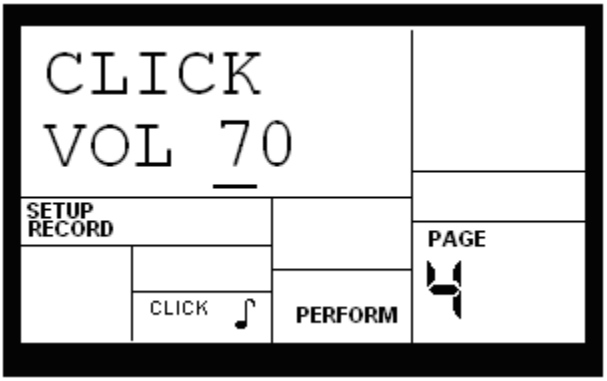


Enter the click value with the INC/DEC or number buttons (1 = quarter note, 2 = quarter note triplet, 3 = 8th note, 4 = 8th note triplet, 5 = 16th note, 6 = 16th note triplet, 7-0 = Click Off).

The click is audible only in Compose mode.

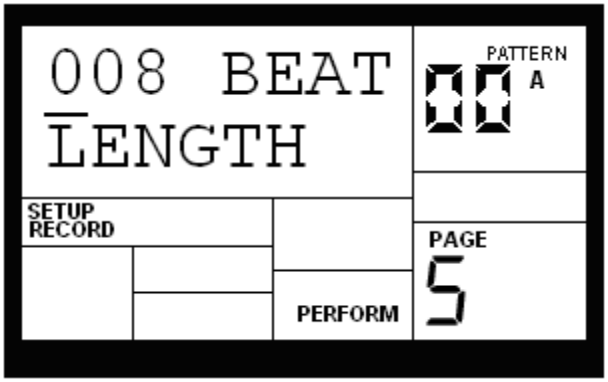
2.4 PAGE 4: SET CLICK (METRONOME) VOLUME (CLICK VOL)

The display shows **CLICK VOL** and a two-digit number representing click volume (**00** = inaudible, **99** = maximum volume). Enter the desired click level with the INC/DEC or number buttons.



2.5 PAGE 5: ADD/REMOVE BEATS FROM PATTERN END (LENGTH)

This option either adds beats to, or subtracts beats from, the end of the Pattern. The Pattern length can be set prior to, or after, recording. Shortening a Pattern's end point erases any drum events that fall outside the remaining part of the Pattern; lengthening a Pattern's end point adds silence at the end of a Pattern. It is also important to note that changing a Pattern's length also changes the length of the associated Fill Pattern.

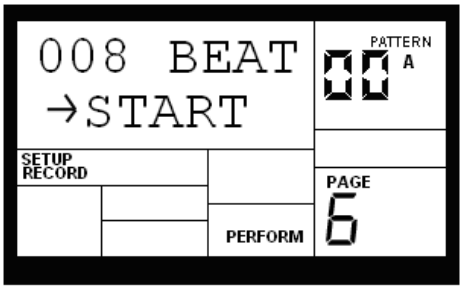


The display says **### BEAT** and **LENGTH**. This indicates a Pattern's length in beats (quarter notes). Enter the desired length with the INC/DEC or number buttons (this must be a three digit number; enter leading zeroes if necessary). To prevent accidental length alteration, you must press PLAY before the Performance Pad will store the new Pattern length. The display shows **CHANGED LENGTH** for as long as PLAY is pressed.

Background Odd time signatures are not a problem since Patterns can be any number of beats (up to 128). *Example:* For a measure of 13/4 followed by a measure of 5/4, program a 13-beat Pattern and a 5-beat Pattern.

2.6 PAGE 6: ADD/REMOVE BEATS FROM PATTERN BEGINNING ('START)

This option either adds beats to, or subtracts beats from, the beginning of the Pattern. The Pattern length can be set prior to, or after, recording. Shortening a Pattern's start point erases any drum events that fall outside the remaining part of the Pattern; lengthening a Pattern's start point adds silence at the beginning of a Pattern.



The display says **### BEAT** and '**START**. This indicates a Pattern's length in beats (quarter notes). Enter the desired length with the INC/DEC or number buttons (this must be a three digit number; enter leading zeroes if necessary). A smaller value compared to the original length will remove the difference, in beats, from the beginning of the Pattern. A larger value will add the difference, in beats, to the beginning of the Pattern.

Background *An example will help clarify how beats are added to or removed from the beginning. Assume an original length of 008 beats. Changing 'START to 007 will delete 1 beat from the Pattern beginning. Therefore, what had been beats 002-008 will now be beats 001-007. Because a beat was removed, the Pattern will be 7 beats long.*

Changing 'START to 009 will add a beat to the beginning of the Pattern. What had been beats 001-008 will now be beats 002-009. Because a beat was added to the beginning, the Pattern will be 9 beats long and the beat added at the beginning will be silent.

2.7 PAGE 7: OFFSET A PATTERN OR DRUM PART

Offset shifts a Pattern or individual drum parts ahead of or behind the beat in 1/384th note increments to allow for altering the "feel" of a piece. This only affects already-recorded parts.

1. The Performance Pad should be in Pattern mode and stopped. The display says **OFFSET**, which will be **00/384** (no offset).

2. Press the pad to be offset (as confirmed by the display). If you don't select a pad, offset affects the entire Pattern.

3. Enter the two-digit offset value with the INC/DEC or number buttons. Positive numbers shift events ahead of the beat (lead), negative numbers shift events behind the beat (lag).

The default is positive numbers; to enter a negative number with the number buttons, press DEC first. *Example:* To offset a part 1/16th note later, enter -24 as the offset value since 24 sub-beats equals a 1/16th note.

Press PLAY to enter this number into the Performance Pad. To apply the same amount of offset to additional pads, press the next pad then press PLAY.

Notes: The display counter resets after you exit the function. Therefore, it does not keep track of the total amount of offset, but only changes in offset.

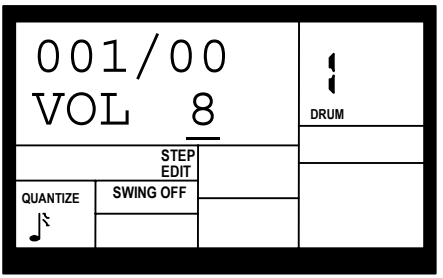
Drums offset to before the first beat "wrap around" to the end of the Pattern; drums offset past the end of the last beat "wrap around" to the beginning of the Pattern.

2.8 PAGE 8: STEP MODE RECORDING (STEP MODE)

The display shows **STEP MODE?** This is your "gateway" to step editing, which provides detailed Pattern editing and recording. To enter the step editor, press PLAY.

The display now shows the beat and sub-beat. If a drum event exists on this beat/sub-beat, the display will also show the drum pad that played the event and the event volume. If more than one drum event occurs on the same sub-beat, the PAGE UP/DOWN buttons step forward or backward respectively through each drum one at a time.

If no drum event exists on this beat/sub-beat, the display will show no pad number, and **EMPTY** in place of volume data.



To navigate through the steps at the current quantization rate, use the PAGE UP button to move forward or PAGE DOWN to move backward. If a drum exists between those beats that fall on the current quantization value, the drum will sound as you go past it, but the display will not stop on that drum.

If swing is on, step mode will step in "swinged" increments (see section 2.2).

Background *Step mode provides detailed Pattern editing. (Note that "step" does not refer to Song steps, but to the steps in a Pattern that hold drum events.) You can move through a Pattern one step at a time, stop at each event as desired, and delete the event, add an event, or change an event's volume. While occasionally somewhat tedious, Step Edit mode allows editing drum parts to your exact specifications.*

Each step (also called a sub-beat) is 1/96th of a beat in duration, so at maximum resolution it takes 96 steps to "move through" a quarter note. To save time, you can step through the Pattern at various note values, as set by the quantization value (which is why it's preferable to select the quantization rate at which the Pattern was recorded). *Example:* A 16th note consists of 24 sub-beats, so setting the quantization value to 1/16 lets you step through the Pattern 24 sub-beats at a time. The following chart relates the number of sub-beats to note/quantization values.

NOTE VALUE		NOTE NAME		SUB-BEATS
1/4	=	QUARTER NOTE	=	96
1/6	=	QUARTER NOTE TRIPLET	=	64
1/8	=	EIGHTH NOTE	=	48
1/12	=	EIGHTH NOTE TRIPLET	=	32
1/16	=	16th NOTE	=	24
1/24	=	16th NOTE TRIPLET	=	16
1/32	=	32nd NOTE	=	12
1/48	=	32nd NOTE TRIPLET	=	8

The following sections summarize the step edit options.

2.8A Add a New Drum to a Step

Use the PAGE buttons to select the step where the drum is to be added. Press the pad that corresponds to the sound you want to add. That drum, along with its volume (how hard the pad was struck), will be recorded into the displayed step.

If you hit a pad and there is already a drum event played by that pad on the displayed step, you will edit the volume rather than add another event. This is true even if there are several events on the displayed beat, and an event other than the one to be edited is showing.

2.8B Erase a Drum Sound From a Step

Use the PAGE buttons to locate the step containing the drum to be erased. While holding down the ERASE button, press PLAY. The drum that was being displayed will be erased.

2.8C Change a Drum Sound's Volume in a Given Step

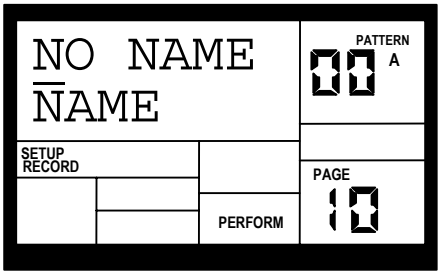
Use the PAGE buttons to select the step containing the drum whose volume needs to be changed. Either press a number button from 1-8 (1=softest, 8=loudest), use the INC/DEC buttons, or tap the displayed drum pad at the desired level. If you play a pad to change the level and there are several events on the same step, the display need not show the specific drum whose volume you want to edit.

2.8D Exit Step Mode

To exit step mode, press STOP, RECORD SETUP, or PLAY.

2.9 PAGE 9: NAME THE PATTERN (NAME)

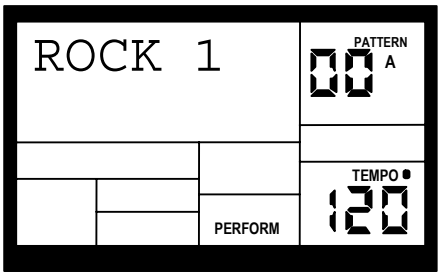
The display shows **NAME** and the current name (or **NO NAME** if the Pattern has not yet been named). To name, use the PAGE UP/DOWN buttons to select the character to be changed; select the desired character with the INC/DEC buttons. Lower case and upper case letters, numbers, punctuation, and various special-purpose characters are available. You can also enter numbers with the number buttons.



CHAPTER 3: PLAYING BACK/RECORDING PATTERNS

3.1 PLAYBACK/RECORD BASICS

The PATTERN/SONG button chooses between Pattern and Song modes. For all of the following Pattern operations, Pattern mode must be selected, as confirmed by the display.



3.1A The Dual-Purpose Fill Button

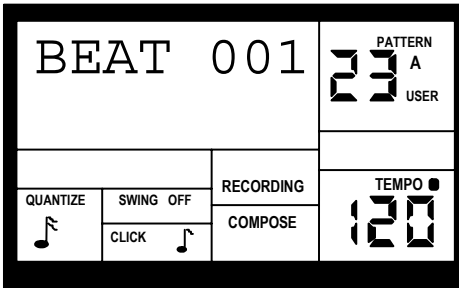
In addition to calling up Fill Patterns as described in the Introduction, the FILL button can also be used while recording to create a series of notes at the desired quantization rate, as described in section 3.1K.

3.1B Perform/Compose Modes

The Performance Pad doesn't have a record button. Instead, press PLAY to start the Pattern, then select either *Perform* or *Compose* mode (as selected by the PERFORM/COMPOSE button).

To record, choose Compose mode (as shown in the display). This also activates the click.

To listen, choose Perform (this de-activates the click). You can drop in and out of these two modes as you record. While the Performance Pad is in either mode, you can change Pattern quantization, swing, click rhythm and volume, pad velocity response, name, drumset, drumset parameters, and MIDI parameters. You can therefore keep the groove going at all times, even while you make adjustments prior to recording another part.



NOTE: *Compose mode cannot be selected when using Preset Patterns, since they cannot be altered. If you wish to alter one of the Preset Patterns, copy it to an empty User Pattern first. (see section 3.3A)*

3.1C Set Pattern Tempo

The tempo range extends from 20 to 255 beats per minute. Tempo can be changed while the Performance Pad is stopped or running. There are two ways to set tempo.

• Before initiating Pattern play, tap the STOP button several times at the desired tempo. The Performance Pad will average the time between taps and derive a tempo; the display will update the tempo with each tap. If a footswitch is plugged into the Count/A/B/Fill jack, tapping the footswitch at the desired rate is equivalent to tapping the STOP button. These techniques work only if the Performance Pad is stopped.

• Use the TEMPO/PAGE up and down buttons. Press once to increment/decrement 1 BPM at a time, or press and hold to scroll through the tempo values.

Background While in Pattern mode, the tempo remains as is until changed because the tempo is a global setting—it is not stored with individual Patterns. If you switch over to Song mode (Chapter 5) and the programmed Song tempo is different, the Performance Pad will assume the Song's tempo—even if you switch back into Pattern mode—until the tempo is changed again (either manually, or by selecting a different Song).

3.1D Select Individual Patterns

1. Make sure the Performance Pad is in Pattern mode.

2. Enter a two-digit Pattern number (remember to enter a leading 0 if necessary).

3. Press the A button to select the A Main Pattern, or B to select the B Main Pattern. To select a Fill Pattern, first select the desired Main Pattern (A or B) then press the Fill Button.

4. Press PRESET/USER to select either a Preset or User Pattern.

When a Main Pattern reaches its end, it will loop back to the beginning and continue playing from that point unless you select a new Pattern, selected a Fill Pattern initially, or stop the Pattern (section 3.1E).

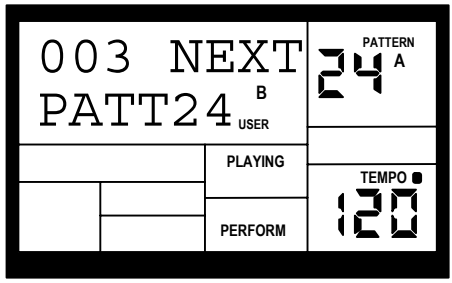
3.1E Stop/Restart a Pattern

1. To stop the Pattern, press STOP.

2. To restart the Pattern from the beginning, press PLAY. Pressing PLAY will always restart a Pattern from the beginning, regardless of whether the Pattern is stopped or already playing.

3.1G Select New Patterns While in Perform (Playback) Mode

In Perform mode, you can select a new Pattern number (with the desired A or B designator) or switch from A to B Patterns within a Pattern number at any time. The newly-selected Pattern will play back as soon as the current Pattern plays through its entire length. The display shows the Pattern to be played next.



To select a new Pattern in Perform mode, enter the two-digit Pattern number. If an A Pattern is currently playing, the new Pattern number will play the A variation. If a B Pattern is currently playing, the new Pattern number will play the B variation.

You can also enter a two-digit Pattern number followed by A or B or PRESET/USER to call up an A or B or Preset or User Pattern, regardless of the Pattern that is currently playing. Fills are a special case that will be discussed next.

Notes

• If you change your mind or select the wrong Pattern, you can select a new Pattern number at any time before the next Pattern begins.

• If you press STOP before the next Pattern begins playing, the Performance Pad will stop and remain on the currently selected Pattern.

• Shortcut: To choose the next higher-numbered Pattern than the one in the display, press the INC button (if 49 is the current Pattern, pressing INC calls up Pattern 00). To choose the next lower-numbered Pattern than the one in the display, press the DEC button (if 00 is the current Pattern, pressing DEC calls up Pattern 49).

• If you select a new Pattern and press PLAY, it will immediately start playing the next Pattern.

3.1H Select Fill Patterns in Perform (Playback) Mode

Fill Patterns are the key to creating expressive drum parts. However, Fill is a sophisticated feature that requires some explanation.

Remember that Fills are always the same length, and use the same Drum Set, as the associated Main Pattern. This lets you "drop in" a Fill at any time. As soon as you press the FILL button, the Fill takes over from the Main Pattern and starts playing until the end of the Fill.

Generally, Fills are transitional Patterns. *Example:* Suppose an 8-beat A Main Pattern is playing and you press the FILL button on beat 4. The A Fill Pattern will play the last 4 beats and then automatically transition into the B Main Pattern. Conversely, if B Main is playing and you press Fill, after B Fill has played, the Performance Pad will transition to the A Main Pattern. You can select the Fill at any time the Main Pattern is playing.

However, Fills do not *have* to be transitional Patterns. If you press the FILL button (or footswitch) before the Fill has finished playing and hold it down until after the Fill has

played *(i.e.,* past the downbeat of the next Pattern), the Performance Pad will return to the original Main Pattern. *Example:* Suppose an 8-beat A Main Pattern is playing and you press the FILL button on beat 4 but hold it down past beat 8. The A Fill Pattern will play the last 4 beats, then the Performance Pad will return to the A Main Pattern.

Fills cannot start on the downbeat since a Fill, by definition, starts at some point into the Main Pattern. However, anything you record on the Fill downbeat will play on the first downbeat following the Fill *(i.e.,* the downbeat of the next Pattern). To show why this is a useful feature, consider that when coming out of a fill, you'll often want to hit something like a cymbal crash on the downbeat of the next Pattern yet not have that crash repeat every time the Pattern plays. This way of handling Fills lets the downbeat cymbal crash be part of the Fill instead of the Pattern.

A footswitch plugged into the Count/A/B/Fill jack duplicates the FILL button function when playing Patterns in Perform mode.

Background *This way of handling Patterns explains the logic behind having A, B, and Fill Patterns. In typical pop tunes, A would be the verse and B the chorus. A Fill provides the Fill that transitions from verse to chorus, and B Fill provides the Fill that transitions from chorus to verse. Thus, one of the numbered Patterns may be all you need to put together a tune.*

This structure makes it possible to put together songs in minutes using the Preset Patterns. It also makes it easy to play drum parts live. For example, if there's a solo happening over the A Main Pattern, you can keep the Pattern repeating until the solo is about to end, at which point you select the Fill that leads out of the A Main Pattern.

3.1 Record a Pattern

An empty Pattern defaults to an 8 beat length, with 16th note quantization and swing off (50%). If you need to change the length, it's best (though not essential) to do so before recording. Other parameters can be changed while you're recording.

To record, select the desired User Pattern. Select Compose mode and press PLAY. Remember that you can switch between Compose and Perform while recording.

As you record, the display will show the current beat number and the tempo indicator will flash at the current tempo. You will hear any drum sounds already recorded in the currently selected Pattern.

To record drum parts into the Pattern, strike the drum pads, or send MIDI data to the Performance Pad (sections 6.1 and 6.2) that triggers corresponding drum notes. The Pattern will "loop" during the record process so that you can overdub different drums on different passes.

To exit Record mode, press STOP. Pressing PLAY while in Compose mode will re-start the Pattern from the beginning; the Performance Pad remains in record mode.

Note: When sending MIDI data into the drums when the Performance Pad is not recording *(i.e.,* the Performance Pad serves as a drum sound expander module), the drum sounds respond to 127 different levels of dynamics. However, if MIDI is used as a trigger during the recording process, the Pattern will "quantize" the incoming level to the nearest of eight levels—the same eight levels produced by striking the pads at various levels.

3.1J Select New Patterns and Fills While in Compose (Record) Mode

In Compose mode, Main Pattern selection works in the same manner as Perform mode—select a Pattern number (with the desired A or B designator), and the newly-selected Pattern will play back as soon as the current Pattern plays through its entire length. The display will show the Pattern to be played next.

In Perform mode, Fills are transitional Patterns. If you press FILL in Compose mode, a Fill will continue playing—not transition to a different Pattern when it's finished playing—so you can record into it, like a standard Pattern. Remember, as mentioned earlier, that the Fill also plays the downbeat of the next Pattern.

If a footswitch is plugged into the Count/A/B/Fill jack when recording Patterns in Compose mode, pressing the footswitch will switch a Main Pattern over to its associated Fill. The Fill will continue playing until you press the footswitch again, at which point the Performance Pad will revert to the associated Main Pattern.

3.1K Using Fill to Create Repetitive Drum Hits

As mentioned earlier, the FILL button performs two different functions. We've already covered how to use the FILL button for Pattern selection, however, it can also trigger a drum sound at the current quantization rate *(e.g.,* eighth notes, 16th notes, etc.; if quantization is off, though, this function is inactive) and swing value. This allows playing a series of drum hits without having to repeatedly press the pads, and is typically used to create steady 16th note hi-hat parts, quarter note kick drum parts, snare rolls, etc.

1. The Performance Pad should be in Compose mode and recording.

2. Press a pad on the first beat of what will be a series of hits and hold it down.

3. Immediately after pressing the pad, press and hold the FILL button. The drum will be re-triggered at the current quantization rate for as long as the pad and FILL buttons are held down. All hits will be at the same volume as the first pad hit.

Caution: *If you don't hit the drum first, pressing the FILL button will select a Fill Pattern.*

3.2 ERASE FUNCTIONS

3.2A Erase Mistakes While Recording

While the Performance Pad is recording, you can erase any individual drum event or series of events in real time to fix up errors. Erasure occurs only on those beats that coincide with the current quantization and swing values; turn quantization *off* to erase a drum wherever it occurs.

1. The Performance Pad should be in Compose mode and recording.

2. Press and hold ERASE.

3. While holding down ERASE, press the pad corresponding to the sound to be erased just before the first event to be erased, and release just after the last event to be erased. To erase a single event, strike the pad on that single event.

3.2B Erase an Entire Pattern

If you erase *both* Main and Fill Patterns associated with a numbered Pattern, or you erase a Main or Fill Pattern and the other is empty, the Drum Set assignment (but not its Drum Set parameters), name, and length will revert to the default settings *(i.e.,* the Drum Set with the same number as the Pattern, **EMPTY PATTERN** as the name, and a length of 8 beats). However, as long as either a Main or Fill Pattern contains previously-programmed data, the numbered Pattern will remember the Drum Set assignment, name, and length.

1. The Performance Pad must be in Pattern mode and stopped to allow erasing a Pattern.

2. Enter the two-digit Pattern number to be erased with the number or INC/DEC buttons.

3. Press and hold the ERASE button. The display says **PATTERN ERASE?**

4. While continuing to hold the ERASE button, press PLAY. The display says **PATTERN ERASED**, followed by **FILL ERASE?** .

5. While continuing to hold the ERASE button, press PLAY again. The display will read **FILL ERASED.**

6. Release both buttons.

Note: To retain the Drum Set assignment, length, and name when you erase a Pattern, hold ERASE and strike each drum pad. This erases the drum events, but retains all other Pattern parameters.

3.2C Erase All Events Played by a Particular Drum Pad

This erases all events in a Pattern played by a specific pad. The Drum Set's parameters are not altered.

1. The Performance Pad should be in Pattern mode and stopped, in either Perform or Compose mode. To erase while recording, see section 3.2A.

2. Press and hold ERASE.

3. While holding down ERASE, strike a pad to erase all events played by that pad. The display shows the drum pad number whose events were erased. You can continue to erase more drum sounds while ERASE is held down.

3.3 COPY FUNCTIONS

The following Copy functions assume that you are copying a Main Pattern to a Main Pattern (remember, copying a Main Pattern to another Main Pattern copies the Fill along with it). Other combinations take the following rules into account.

• Copying a Main Pattern to a non-empty Pattern or to itself appends the Fill to the existing Fill, as well as appends the Main Pattern to the existing Main Pattern.

• If you copy from Main to Fill (or vice-versa) within a particular numbered Pattern, the destination will be erased and replaced with the source Pattern since Main and Fill Patterns must have the same length. This is useful if you want the Fill to contain variations on the Main Pattern—just copy the Main to Fill and make your additions/changes.

• Copying a Fill to a Fill follows the same rules as copying a Main Pattern to a Fill.

• The only copy technique that appends a Pattern to another Pattern is copying a Main Pattern to another Main Pattern.

3.3A Copy, Append, and Double Patterns

1. The Performance Pad should be in Pattern mode and stopped.

2. Select the Pattern to be copied.

3. Press and hold the COPY button, and keep holding it down until step (6). The display says **COPY TO PATT**.

4. Enter the destination Pattern number into which the current Pattern will be copied with the INC/DEC or number buttons.

• Copying a Pattern to a blank destination Pattern replaces the blank Pattern with the original Pattern data.

• Copying to a Pattern that already contains data appends the original data to the end of the data in the destination Pattern. If this would result in a Pattern with more than 128 beats, the display will say **TOO MANY BEATS**.

• Copying a Pattern to itself doubles the length.

• The Drum Set assignment and Pattern name are copied along with the drum data only if the destination Pattern is empty.

5. Press PLAY. The display says **COPY DONE**.

6. Release the COPY and PLAY buttons.

3.3B Copy One Drum Pad's Part to Another Drum Pad

Merge: When the destination drum pad **already has a pattern**, the source pattern will be merged with the destination pattern. Note that if the two parts contain events for the same pad on the same beat, only one event will prevail and it will take the level of the source Pattern event.

Sound Stacking™: When the destination drum pad is **empty** (no recorded pattern), the source pattern will be copied and any drum sound assigned to the destination drum pad will play the exact same pattern as the source drum pad. This technique lets you stack multiple drum sounds together to create monster composite sounds. See section 8.3: Sound Stacking.

1. The Performance Pad should be in Pattern mode and stopped.

2. Select the Pattern containing the drum part to be copied.

3. Press and hold the COPY button, and keep holding it down until step (7). The display says **COPY TO PATT**.

4. Strike the pad to be copied. The display shows the pad number *(e.g.,* **D8** if you hit pad 8).

5. Strike the destination pad that should hold the copied part. As long as COPY is held down, the destination pad can still be changed by selecting another drum pad.

6. Press PLAY. The display says **COPY DONE**.

7. Release the COPY and PLAY buttons.

3.3C Copy a Single Drum Pad's Part to a Drum Pad in a Different Pattern

This copy function *merges* the source drum pad rhythm with the destination drum pad rhythm in a different Pattern. To *replace* the destination rhythm with the source rhythm, first erase the destination pad rhythm to be replaced (section 3.2C).

1. The Performance Pad should be in Pattern mode and stopped.

2. Select the Pattern containing the drum part to be copied.

3. Press and hold the COPY button, and keep holding it down until step (8). The display says **COPY TO PATT**.

4. Enter the destination Pattern number to which the drum part should be copied.

5. Strike the pad containing the part to be copied. The display will show the drum number (such as **D2** if you hit pad 2).

6. Strike the destination pad to which the source part will be merged. Often when copying to a different Pattern, this will be the same drum pad number as selected in step (5). As long as COPY is held down, the destination pad can still be changed by selecting another drum pad.

7. Press PLAY. The display says **COPY DONE**.

8. Release the COPY and PLAY buttons.

CHAPTER 4: CREATING DRUM SETS

The Performance Pad's 8 pads can be assigned to various drum sounds, with different levels, tuning, panning, triggering mode, and output jack assignment. Each set of pad parameters is given a number and collectively are called a Drum Set; each A and B user Pattern can have its own Drum Set assignment. There are 50 preset Drum Sets and 50 user-programmable Drum Sets. Drum Set assignments have their own dedicated memory and can be thought of as equivalent to the "programs" or "patches" found in synthesizers.

Note that if you edit a Drum Set, any Pattern using that Drum Set will be affected. Most Performance Pad aficionados keep a one-to-one correspondance between Drum Sets and Patterns by assigning Set 00 to Pattern 00, Set 01 to Pattern 01, Set 02 to Pattern 02, etc.

General instructions for Drum Set construction are:

1. Press the DRUM SET button.

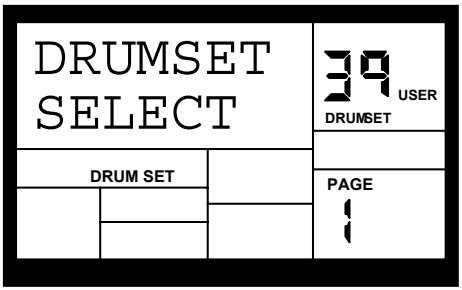
2. Use the Page (up and down) buttons to select different "pages" of functions; the display's lower right window shows the page number. These pages are described below.

3. Adjust values on pages, if necessary, as described for each page.

4. After making all needed changes, save the Drum Set if desired (Page 8), then press DRUM SET again to exit (or choose another page).

4.1 PAGE 1: SELECT DRUM SET (DRUMSET SELECT)

The display shows **DRUMSET SELECT**, the currently selected Drum Set number, and whether the Preset or User Drum Set bank is currently selected.



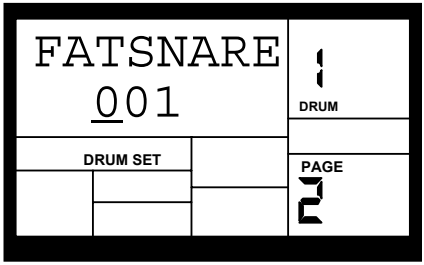
1. Press the PRESET/USER button to choose the desired bank of Drum Sets.

2. Enter the desired Drum Set number (from 00 to 49) with the number or INC/DEC buttons. With the number buttons, enter a leading zero if necessary.

3. User Patterns will remember the selected Drum Set assignments (Preset Patterns have fixed Drum Set assignments; if you exit from the Preset Pattern, the Performance Pad will forget any assignment you made).

4.2 PAGE 2: ASSIGN SOUNDS TO PADS

The display shows the currently selected pad number and the sound assigned to that pad.



You can assign any of the Performance Pad's sounds to any of the pads, or to more than one pad. Each individual Drum Set can have its own drum sound assignment.

To assign a sound to a pad:

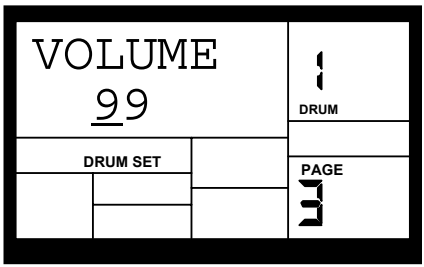
1. Hit the pad.

2. Enter the desired drum sound number with the number or INC/DEC buttons.

3. When the display confirms your choice, either store the edited Drum Set (see section 4.8) or do more assignments by striking another pad to select it, and assigning a drum sound to it.

4.3 PAGE 3: SET PAD VOLUME (VOLUME)

The display shows **VOLUME**, the currently selected pad number, and the volume of the sound assigned to that pad.



To change the volume associated with a given pad:

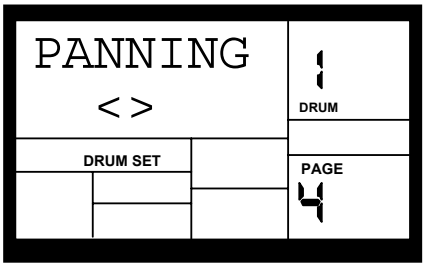
1. Press the pad (the display will show the pad number).

2. Enter the desired volume, from 00 (full off) to 99 (maximum volume), with the number or INC/DEC buttons.

3.When the display confirms your choice, either store the edits you've made (see section 4.8) or do more assignments by striking another pad to select it, then assigning the pad volume.

4.4 PAGE 4: SET PAD STEREO POSITION (PANNING)

The display shows **PANNING**, the currently selected pad number, and the pan position assigned to that pad. (Note the cute little arrows indicating pan position; they move when you pan the drum sound.)



To change the pan position associated with a given pad:

1. Press the pad (the display will show the pad number).

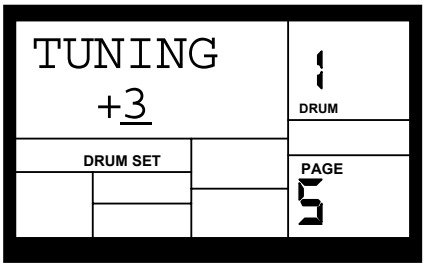
2. Enter the desired pan position, from full left to full right, using either the number or INC/DEC buttons. The seven available pan positions correspond to the number buttons shown in parenthesis: hard left (1), soft left (2), left of center (3), center (4), right of center (5), soft right (6), and hard right (7).

3. When the display confirms your choice, either store the edited Drum Set (see section 4.8) or do more assignments by striking another pad to select it, then assigning the pan position.

Background *The Performance Pad has two pairs of stereo outputs. Drum sounds can be assigned to either pair of outputs (Page 7), and be placed anywhere within the stereo field of the assigned outputs via the pan function.*

4.5 PAGE 5: SET PAD TUNING (TUNING)

The display shows **TUNING**, the currently selected pad number, and the tuning assigned to that pad.



To change the tuning associated with a given pad:

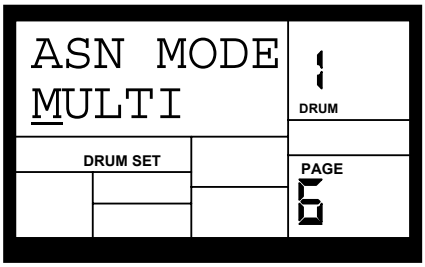
1. Press the pad (the display will show the pad number).

2. Enter the desired tuning with the INC/DEC buttons. The range is from +3 (most sharp) to 0 (normal pitch) to -4 (most flat).

3. When the display confirms your choice, either store the edits (see section 4.8) or do more assignments by striking another pad to select it, then assigning the new tuning.

4.6 PAGE 6: SET TRIGGERING MODE (ASN MODE)

The display shows **ASN MODE** (short for Assignment Mode), the currently selected pad number, and the mode assigned to that pad.



To change the mode associated with a given pad:

1. Press the pad (the display will show the pad number).

2. Enter the desired mode with the INC/DEC buttons or number buttons 1-4.

3. When the display confirms your choice, either store the edited Drum Set (see section 4.8) or do more assignments by striking another pad to select it, then changing the new assignment mode.

Background *Each mode affects triggering in a different way:*

Multi: When hitting a pad repeatedly, each hit will cause the sound to go through its entire decay. This is useful with cymbals, since early strikes will continue to decay as you play later strikes.

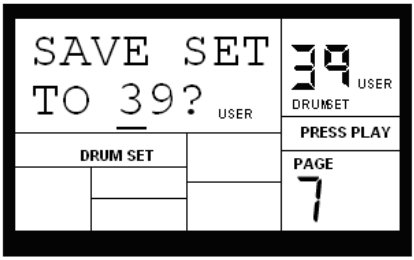
Single: When hitting a pad repeatedly, a new hit will automatically terminate any sound that is still decaying. This is useful with many percussion sounds (such as tambourine, agogo, etc.).

Group 1 and 2: Pads assigned to a particular group (1 or 2) will cut each other off if a group pad is struck while another pad assigned to the same group continues to sound. The classic use of this is with hi-hats; a closed high-hat will cut off an open hi-hat, and hitting an open hi-hat sound will cut off a closed hi-hat.

The Performance Pad can play up to 16 voices at a time, so it's possible to run out of voices if you play a flurry of notes and have lots of pads in the Multi assign mode. If 16 sounds are playing and you ask the Performance Pad to play another one, the sound that's closest to finishing its decay cycle will be "stolen" so that the most recent sound can be played. In practice, it's difficult (and usually not artistically desirable!) to create drum parts so complex that voice-stealing becomes a problem. However, if this is a problem, try assigning all the toms to a group so that they only require one voice at a time.

4.7 PAGE 7: SAVE DRUM SET (SAVE SET)

The display shows **SAVE SET?**, the currently selected Drum Set number (location), and a two-digit number that's the same as the currently selected Drum Set.



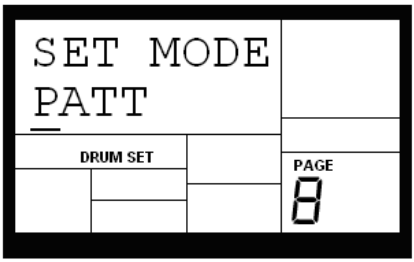
To save the Drum Set to the existing location, press PLAY. The display will say **DRUMSET SAVED** for as long as PLAY is held down.

To save the Drum Set to a different location, enter the new Drum Set number with the INC/DEC or number buttons (allowable range is 00-49), then press PLAY. The display will say **DRUMSET SAVED** for as long as PLAY is held down.

If you were editing a Preset Drum Set and want to save it, you will be given the option to save it to a User Drum Set since you cannot overwrite a Preset Drum Set. This technique can also copy one Drum Set to a different Drum Set. Also, remember that if you change Patterns before saving your Drum Set, all of your edits will be lost.

4.8 PAGE 8: MANUAL DRUM SET OVERRIDE (SET MODE)

The display says **SET MODE**. Use the INC/DEC buttons to select **PATT** (each Pattern uses its assigned Drum Set) or **MANUAL** (the Performance Pad will retain the currently selected drum assignments regardless of which Pattern is chosen).



Note: *If changing Patterns doesn't call up different Drum Sets, this parameter is probably set to MANUAL instead of PATT.*

Background *Each Pattern has an associated, assigned Drum Set. However, you can tell the Performance Pad to ignore these stored assignments, and retain the currently selected Drum Set regardless of whether or not you change Patterns. This is useful if you want to hear how a Pattern would sound with a different Drum Set (just set one up manually) as opposed to the one stored with the Pattern.*

CHAPTER 5: SONG MODE

5.1 SONG MODE BASICS

After creating the Patterns that make up a Song, it's time to string those Patterns together in a musically useful way. You can incorporate Preset Patterns, or a combination of Preset and User Patterns. There are three ways to create Songs:

• In real time. As the Performance Pad plays in Song Mode (with Compose mode selected), it will remember the Patterns and Fills you select.

• Manually. Select Song mode and program a list of Patterns and Fills in the order in which the Patterns are to be played. You can specify the beat and sub-beat on which the Fill takes over from the associated main Pattern.

• A combination of real time and manual recording. Create a Song in real time, then edit it manually to insert extra Song steps, delete Song steps, etc.

The Performance Pad holds up to 100 Songs, and each Song can contain up to 254 steps. Each step holds either a Pattern number or Fill. Each Song remembers the tempo at which it was last played.

5.1A Select Songs and Enter/Exit Song Mode

1. The Performance Pad should be in Song mode.

2. Select PERFORM mode.

3. Enter a two-digit Song number with the number or INC/DEC buttons. Song numbers must always include two digits; enter a leading zero if necessary.

4. Press PLAY to begin playback. Press STOP to stop playback.

5. To exit Song mode and return to Pattern mode, first stop the Song with the STOP button, then press the PATTERN/SONG button.

5.1B Set Song Tempo

The tempo range extends from 20 to 255 beats per minute. Song tempo can be changed while the Performance Pad is stopped or running, and the Song remembers the last tempo that was chosen. There are two ways to set tempo.

1. Before pressing PLAY to start a Song, tap the STOP button several times at the desired tempo. The Performance Pad will average the time between taps and derive a tempo; the display will update the tempo with each tap. If a footswitch is plugged into the Count/A/B/Fill jack, tapping the footswitch at the desired rate is equivalent to tapping the STOP button. These techniques work only if the Performance Pad is stopped.

2. Use the TEMPO/PAGE up and down buttons. Press once to increment/decrement respectively 1 BPM at a time, or press and hold to scroll through the tempo values.

Background *While in Pattern mode, the tempo remains as is until changed. If you switch over to Song mode and the programmed Song tempo is different, the Performance Pad will assume the Song's tempo—even if you switch back into Pattern mode—until the tempo is changed again (either manually, or by selecting a different Song).*

5.1C Continue, Re-start, or Jump to Next Song Step

• In Compose mode, if you stop a Song and then press PLAY, the Song will continue from the first beat of the Pattern that was playing when STOP was pressed.

• In Perform mode, if you stop a Song and then press PLAY, the Song will re-start from the beginning.

• In either Compose or Perform mode, press PLAY while the Song is playing to immediately jump ahead to the next Song step. Its associated Pattern will begin on the downbeat. This is a convenient way to "fast forward" over certain parts of a Song.

5.1D "Loop" a Pattern Indefinitely

In Song Perform mode, pressing and holding FILL until the end of a song step will cause that step to repeat. A footswitch plugged into the Count/A/B/Fill jack will perform the same function.

Examples: Use this feature if a soloist decides to take another few bars. Another use is if two Songs share the same tempo. Follow the first Song with a blank Pattern, then append the second Song. Between Songs, hold down the footswitch on the blank Pattern song step, then release to start the second Song.

5.1E Start from the Middle of a Song

You need not start a Song from the beginning each time; in Compose mode, a Song can start at any Song step.

1. Make sure the Performance Pad is in Compose mode, even if you don't plan to record anything.

2. Use the INC/DEC buttons to select the Song step at which you want the Performance Pad to start playing.

3. Press PLAY. The Performance Pad will start playing at the downbeat of the selected Song step.

4. If you don't want to extend the Song length, go into Perform mode before reaching the end of the Song. If you do want to extend the Song length, remain in Compose mode.

5.1F Name a Song (NAME)

1. The Performance Pad can be in either Compose or Perform mode.

2. Press RECORD SETUP. If the Song has been named, the name will show on the top line. If the Song has not been named, the display says **NO NAME**.

3. Enter the name using the PAGE UP/DOWN buttons to select the character to be changed, and the INC/DEC buttons to select the desired character. Lower case and upper case letters, numbers, punctuation, and various special-purpose characters are available. You can also enter numbers with the number buttons.

5.1G Change Song Tempo as the Performance Pad Plays

To change the Song tempo as it plays, press the TEMPO/PAGE UP button to increase the tempo, and the TEMPO/PAGE DOWN button to decrease the tempo.

5.2 REAL TIME SONG CREATION

To create a Song in real time (this assumes an empty song):

1. (Optional) In Pattern mode, select the Pattern you want for the first Song step.

2. Select Song mode and the desired Song number.

3. Select Compose mode. The display will show **STEP 01** and the contents of the step, which is currently **END** (if the first step says **END**, that indicates that the Song is empty since it contains no data. If the first step shows a **PATT**ern number, then the Song is not empty).

4. If you did not perform step (1) above, enter the desired Pattern for step 1 (Preset or User, A or B, A Fill or B Fill).

5. Press PLAY. If you performed step (1) above, the Pattern you selected will begin playing. Otherwise, the Pattern specified in step (4) above will start playing.

6. If you enter a new Pattern number (Preset or User, A or B) while the first Pattern is playing, the new Pattern will begin playing after the first Pattern has finished and be stored as another Song step in the Song. If you let the original Pattern keep playing, it will add a new Song step with its Pattern number every time it repeats.

7. In addition to selecting different Patterns, you can press FILL at any time. The Performance Pad will remember where you pressed FILL.

As in Pattern mode, pressing FILL will automatically transition to the B Pattern if the A Pattern is currently playing (and vice versa), or will continue playing the same Pattern if the FILL button is held past the end of the Fill.

A Fill can transition into any Pattern number, A or B, by specifying the Pattern before the end of the Fill and releasing FILL before the Fill has finished playing. If you hold FILL past the end of the Fill, the associated Main Pattern will continue playing and any Pattern you may have previously specified for the next Step will be forgotten.

When recording a Song in Compose mode, the Count/A/B/Fill footswitch duplicates the FILL button function.

5.2A Real Time Song Editing

If you have already recorded material in a Song, pressing PLAY while in Compose mode will not allow recording until after the last Song step (as indicated by the display switching from **PLAYING** to **RECORDING**). However, you can overdub Fills at any time, and these will be recorded in the Song where played. Under these conditions, holding FILL past the downbeat doesn't make any difference; the Patterns used in Song steps are not altered.

5.3 MANUAL SONG CREATION

5.3A Enter a Pattern

1. Select Song mode and the desired Song number.

2. Select Compose mode. The display will show **STEP 01** and the contents of the step, which is currently **END** (if the first step says **END**, that indicates that the Song is empty since it contains no data. If the first step shows a **PATT**ern number, then the Song is not empty).

3. Enter a two-digit Pattern number with the number buttons. If desired, choose between the A/B variations and Preset/User options.

4. If you want to enter another Pattern, press the INC button to move to the next step; or press the DEC button to return to a previous step and change its Pattern.

5.3B Add a Fill

1. With the Performance Pad in Song and Compose modes, select the step where the Fill is to be added.

2. Press and hold the FILL button.

3. Enter the number of beats and sub-beats after the start of the current step in which the Fill is to start playing with the number buttons and INC/DEC buttons respectively. It is not necessary to press PLAY; the step will remember where the Fill is to occur.

4. As the Song plays the step where the Fill occurs, the display will show **FILL** when the Fill begins playing.

5.3C Remove a Fill

While in Compose mode, there are two ways to remove a Fill from a Song:

• When the Fill step appears, press the A button for an A Pattern or press the B button for a B Pattern and the Fill will be removed.

• When the Fill step appears, press and hold the FILL button and press ERASE.

5.3D Insert a New Step Between Two Existing Song Steps

1. The Performance Pad should be in Song and Compose modes.

2. Use the INC/DEC buttons to select the step number that the inserted step should occupy. *Example:* To insert a step after step 04, select step 05.

3. Press and hold COPY, and keep holding it down until step (6). The display says **INSERT**.

4. Enter the two-digit Pattern number to be inserted.

5. Press PLAY. The new step is inserted, and all subsequent steps are automatically re-numbered to reflect the addition of the inserted step *(e.g.,* what used to be step 05 is now step 06, what used to be step 06 is now step 07, etc.).

6. Release the INSERT and PLAY buttons.

5.3E Delete a Step

1. The Performance Pad should be in Song and Compose modes.

2. Use the INC/DEC buttons to select the step number to be deleted.

3. Press and hold ERASE. The display says **ERASE STEP?**

4. While continuing to hold ERASE, press PLAY. The step is deleted, and all subsequent steps are automatically re-numbered to reflect the deletion of the inserted step *(e.g.,* what used to be step 06 is now step 05, what used to be step 07 is now step 06, etc.). The display says STEP ERASED for as long as the ERASE and PLAY buttons are pressed.

5. Release the ERASE and PLAY buttons.

5.3F Replace a Step

1. The Performance Pad should be in Song and Compose modes.

2. Use the INC/DEC buttons to select the step number to be replaced.

3. Enter the new Pattern number (with appropriate A or B, Fill, or User/Preset options). Since the step is replaced, no renumbering of subsequent steps occurs.

5.3G Erase an Entire Song

1. The Performance Pad should be in Song and Perform modes.

2. Use the number buttons to select the Song to be erased.

3. Press and hold the ERASE button. The display says **SONG ERASE?**

4. While holding down the ERASE button, press PLAY. The display says **SONG ERASED** and erasure is complete.

5. Release the ERASE and PLAY buttons.

5.3H Copy a Song to Itself (Double Song Length)

Copying a Song to itself doubles the Song's length.

1. The Performance Pad should be in Song and Perform modes.

2. Select the Song to be copied to itself with the number or INC/DEC buttons.

3. Press and hold the COPY button. The display says **COPY TO SONG** .

4. While continuing to hold the COPY button, enter the same Song number as the one selected in step (2) and press PLAY. The copy is complete, and the display says **COPY DONE**.

5. Release the COPY and PLAY buttons.

5.4I Copy a Song to Another Song (or to the End of Another Song If That Song is Not Empty)

1. The Performance Pad should be in Song and Perform modes.

2. Select the Song to be copied with the number or INC/DEC buttons.

3. Press and hold the COPY button, and keep holding it down until step (6). The display says **COPY TO SONG** with the number of the currently selected Song.

4. While continuing to hold the COPY button, enter the destination Song number to which the source Song should be copied using the number or INC/DEC buttons.

5. While you continue to hold the COPY button down, press PLAY. The copy is complete, and the display says **COPY DONE**.

6. Release the COPY and PLAY buttons.

Notes

• If the destination Song was empty, the copy is identical to the source Song.

• If the destination Song was not empty, then the source Song is appended to the end of the destination Song. This increases the destination Song's length by the length of the source Song; if the total destination Song length would exceed 254 steps after copying, the copy will not take place, and the display will say **SONG TOO LONG**.

CHAPTER 6: MIDI SETUP

This menu accesses important MIDI functions. General instructions are:

1. Press the MIDI SETUP button.

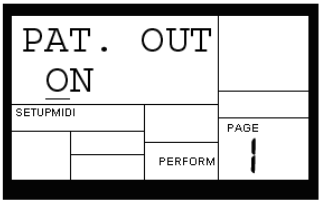
2. Use the Page (up and down) buttons to select different "pages" of functions; the display's lower right window shows the page number. These pages are described below.

3. Adjust values on pages, if necessary, as described for each page.

4. After making all needed changes, press MIDI SETUP again to exit, or choose another page.

All the parameters on the following pages remain as set, even if you turn off power, until changed.

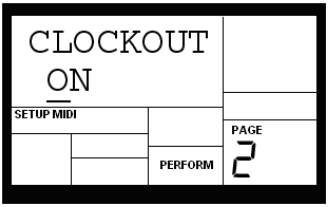
6.1 PAGE 1: TRANSMIT PATTERN DATA VIA MIDI



The display shows **PAT. OUT**. To have the Performance Pad output MIDI pattern data when playing a Pattern/Song, use the INC/DEC buttons to select **ON**. Select **OFF** if you don't want the Performance Pad to transmit pattern data.

Background *Select **ON** to send Pattern data into a sequencer for recording, or drive other drum sound expander modules. If the Performance Pad is acting as a drum machine and provides the master clock to a MIDI system, select **OFF** so that other devices don't respond to the MIDI note data.*

6.2 PAGE 2: SEND CLOCK DATA TO OTHER DEVICES (CLOCKOUT)



The display shows **CLOCKOUT**. To have the Performance Pad generate timing data at its MIDI out, use the INC/DEC buttons to select **ON**. Select **OFF** to inhibit MIDI timing signals from appearing at the MIDI out jack.

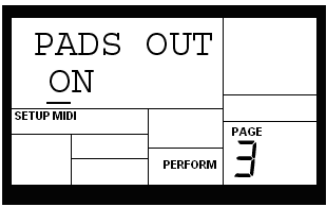
Background *The Performance Pad can generate timing signals to which other devices can synchronize if:*

• The external device (sequencer, drum machine, etc.) can respond to MIDI timing signals.

• These signals go from the Performance Pad's MIDI out to the external device's MIDI in.

*• **CLOCKOUT** is **ON**.*

6.3 PAGE 3: TRANSMIT PAD HIT DATA VIA MIDI



The display shows **PADS OUT**. To have the Performance Pad transmit MIDI note data when you strike the pads, use the INC/DEC buttons to select **ON**. Select **OFF** to disable the transmission of MIDI data when pads are hit.

CHAPTER 7: UTILITY

7.1 ABOUT UTILITY

The Utility Menu allows you to save the Performance Pad Pattern, Song, and Drum Kit data to MIDI system exclusive storage devices and check how much memory is left on the Performance Pad. General instructions are:

1. Press the UTILITY button.

2. Use the Page (up and down) buttons to select different "pages" of functions; the display's lower right window shows the page number. These pages are described below.

3. Adjust values on pages, if necessary, as described for each page.

4. After performing the desired utility operation, press UTILITY again to exit, or choose another page.

7.2 PAGE 1: SEND DATA AS MIDI TO A MIDI SYS EX STORAGE DEVICE (SEND OUT MIDI?)

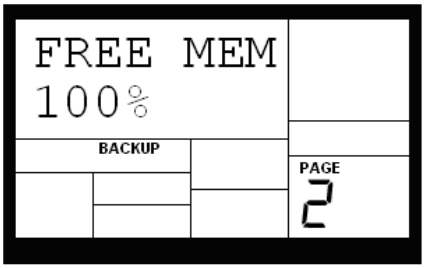
The display shows **SEND OUT MIDI?** To convert the Performance Pad's Pattern and Song information into MIDI system exclusive data and send this data through the MIDI out, press the PLAY button. The display will say **SENDING MIDI…** to confirm that data is being sent. Typically, the MIDI out would connect to another device's MIDI in or a system exclusive data storage device. The Performance Pad data can take up to 35K, allowing it to be captured by most system exclusive storage devices.

After the transfer is complete, the Performance Pad display reverts to either Song or Pattern mode (whichever had been selected prior to saving).

Note that the iED04 does not have a MIDI IN port, but the data can be read by an Alesis SR16 drum machine.

7.3 PAGE 2: CHECK AVAILABLE MEMORY (FREE MEM)

When you select Page 2, the display will show the approximate amount of free memory available (expressed as a percentage of the total amount).



Background *It is important to check memory from time to time because the Performance Pad always requires some free memory for proper operation. If the available memory falls below 15% or so, immediately save the Performance Pad's data as previously described in this chapter.*

Some operations may not be possible even if a small amount of memory is left. This is because the Performance Pad duplicates a Pattern before it is modified (length change, offset change, etc.). If you try to alter a Pattern that takes up more memory than is available, the display will tell you that there is no more memory left.

Immediately save the Performance Pad's data, and determine whether you can erase any unwanted Patterns or Songs to free up some memory.

CHAPTER 8: APPLICATIONS

8.1 MIDI SYNC APPLICATIONS

8.1A Performance Pad As MIDI Timing Master

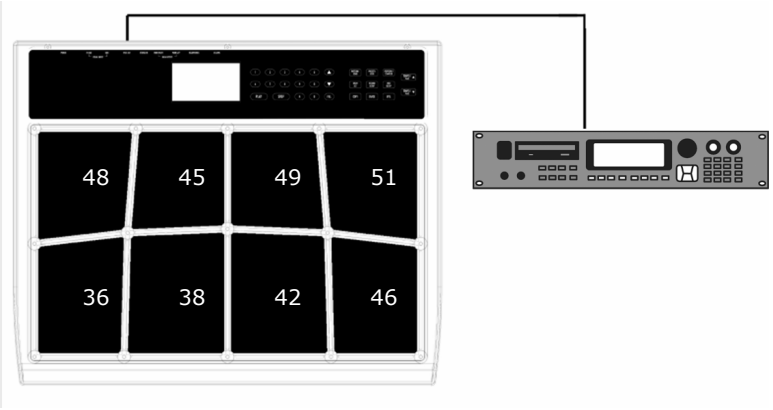
The Performance Pad can control several other slave MIDI drum machines or sequencers by turning on MIDI Clock Out, which sends Performance Pad timing information down the MIDI line.

1. Turn on MIDI Clock Out (section 6.6).

2. Program the slave units to not follow their internal clocks, but to accept external MIDI Clock and Start/Stop data. Refer to each device's manual to find out how to do this. Enable the slave's Song Position Pointer if it is available.

3. Press PLAY on the Performance Pad. The slave units should start at the same time, and progress at the same tempo. If the slaves respond to Song Position Pointer, you can start an Performance Pad Song at any point, and after a few seconds the slaves will catch up and synchronize from that point on.

The following diagram shows a Performance Pad serving as the MIDI system master clock, with a sampler device set as a slave. To slave the sampler (or any external device accepting MIDI in) use a 5-pin MIDI cable to connect the MIDI OUT of the Performance Pad to the MIDI IN of the device.



8.2 STRATEGIES FOR ASSEMBLING PATTERNS AND SONGS

Ideally, you should be able to translate your inspirations into tangible form with a minimum amount of effort. The following tips and techniques help speed up the process of creating Patterns and Songs.

8.2A Create Fills Quickly with the Copy Function

Many times a Fill will simply be a variation on another Pattern, but with a few minor differences to add variety or serve different musical purposes. To save time, use the Copy function to copy the main Pattern to the Fill, then add variations to the Fill in real time or with Step Edit mode.

8.2B Assemble Short Patterns into Longer Patterns with the Copy Function

It's less time-consuming to work with short Patterns, since you don't have to wait for the entire Pattern to cycle through before overdubbing or "spot erasing" events. After assembling several short Patterns, use the copy function to append Patterns into a longer Pattern. *Example:* Create four eight-beat Patterns, then use the copy function to combine these into a single 32-beat Pattern.

8.2C Save Memory Through Song Steps

Whenever possible, repeat Patterns using Song steps rather than program long Patterns. *Example:* Suppose you have a 16-measure figure where the first three groups of four measures are identical, and the final group of four measures provides some sort of variation. Recording this as one 16-measure Pattern will take up more memory than recording two Patterns (one of the first group of four measures and one of the last group of four measures), and while in Song mode repeating the first group three times followed by the last group once.

8.2D Odd Time Signatures

For time signatures based on quarter notes, changing the number of beats in a Pattern can also change the time signature. *Example:* Programming a Pattern length seven beats long will yield a measure of 7/4. Programming a Pattern length 14 beats long will yield two measures of 7/4. Time signatures such as 2/4, 3/4, 5/4, 9/4, and so on are easy to implement.

For time signatures based on eighth notes, it's easiest to double the tempo so that each beat lasts an eighth note instead of a quarter note. However, you will have to take this into account when quantizing and setting the metronome—if the display says a quarter note, read it as an eighth note.

Plan carefully when mixing odd time signatures within the same piece. If some Patterns use a time signature based on quarter notes and others on eighth notes, you will need to double the tempo for the quarter note-based Patterns to match up with the eighth-note based Patterns.

8.3 UNDERSTANDING RHYTHMIC NOTATION

Measures A piece of music is divided into smaller units called *measures* (also called *bars),* and each measure is divided into *beats.* In the Performance Pad, each beat is further sub-divided into 96 sub-beats.

Rhythmic Values for Notes With a measure written in a 4/4 time signature, there are 4 beats per measure, and each beat represents a quarter (1/4) note. Thus, there are 4 quarter notes per measure of 4/4 music. With a 3/4 time signature the "numerator" indicates that there are 3 beats per measure, while the "denominator" indicates that each of these beats is a quarter note (1/4).

There are two *eighth notes* per *quarter note.* Thus, there are eight eighth notes per measure of 4/4 music.

There are four *16th notes* per quarter note. Thus, there are sixteen 16th notes per measure of 4/4 music.

There are eight *32nd notes* per quarter note. Thus, there are thirty-two 32nd notes per measure of 4/4 music.

There are also notes that span a greater number of beats than quarter notes. A *half note* equals two quarter notes. Therefore, there are two half notes per measure of 4/4 music. A *whole note* equals four quarter notes, so there is one whole note per measure of 4/4 music. (We keep referring these notes to 4/4 music because that is the most commonly used time signature in contemporary Western music.)

Triplets The above notes divide measures by factors of two. However, there are some cases where you want to divide a beat into thirds, giving three notes per beat. Dividing a quarter note by three results in *eighth-note triplets*. The reason why we use the term eighth-note triplets is because the eighth note is closest to the actual rhythmic value. Dividing an eighth note by three results in *16th-note triplets.* Dividing a 16th note by three results in *32nd note triplets.*

Rests You can also specify where notes should *not* be played; this is indicated by a *rest,* which can be the same length as any of the rhythmic values used for notes.

Dotted Notes and Rests Adding a dot next to a note or rest means that it should play one-and-one-half times as long as the indicated value. This of course does not apply to percussion parts. *Example:* A dotted eighth note would last as long as three 16th notes (since an eighth note is the same as two 16th notes).

Uncommon Time Signatures 4/4 (and to a lesser extent 3/4) are the most common time signatures in our culture, but they are by no means the only ones. In jazz, both 5/4 (where each measure consists of five quarter notes) and 7/4 (where each measure consists of seven quarter notes) are often used. In practice, complex time signatures are played like a combination of simpler time signatures; for example, some 7/4 compositions would have you count each measure not as 1, 2, 3, 4, 5, 6, 7 but as 1, 2, 3, 4, 1, 2, 3. It's often easier to think of 7/4 as one bar of 4/4 followed by one bar of 3/4 (or the other way around, depending on the phrasing), since as we mentioned, 4/4 and 3/4 are extremely common time signatures.

MIDI IMPLEMENTATION CHART

Function		Transmitted	Recognized	Remarks
Basic	Default	1-16	X	
Channel	Changed	1-16	X	
Note Number:		0-127	X	
	True Voice	0-127	X	
Velocity	Note On	1-127	X	
	Note Off	0	X	
After Touch	Ch's	X	X	
		X	X	
Pitch Bend		X	X	
Program Change	True #	0-127	X	
System Exclusive		O	X	
System Common	Song Pos	0	X	MIDI out only
	Song Sel	0	X	
	Tune	X	X	
System Realtime	Clock	X	X	
	Commands	X	X	
Aux Messages	Local On/Off	X	X	
	Active Sense	X	X	
	Reset	X	X	
	GM On	X	X	
Notes:				

O:YES
X:NO

SOUND LIST

1 Honst Kik
2 Honst A
3 Stab Kik
4 Stab A
5 Lo Honst
6 Lo Honst
7 Lo Stab
8 Lo Stab A
9 Dynam Kik
10 Old Wood
11 Low Wood
12 Ambi Kik
13 Room Kiki
14 Lo Room K
15 Room Kik 2
16 Lo Room 2
17 Hi Fixd KK
18 Fixd Kiki 1
19 Fixd Kiki 2
20 Lo Fixd 1
21 Lo Fixd 2
22 Garage Kk
23 House Kik
24 Wrap Kik
25 Hi Wrap KK
26 Dbl Head
27 Titer Dbl
28 Head Puch
29 Brite Rm
30 Loose Kik
31 Foot Stuk
32 Hi Elect
33 Electruc
34 Amb Elect
35 Lo Elect
36 Punch Rm
37 Flab Rm
38 Mush Kik
39 Brt Hall
40 Stuk Hall
41 Lo Fxd H1
42 Lo Fxd H12
43 Head Hall
44 Dbl Hd Rm
45 Lo Dbl H Rm
46 Solid H1
47 Wet Flng
48 Brt Pnch
49 Dry Plug

50 Hi Honest
51 Honst Sur
52 Lo Honst
53 Hi Honst 2
54 Hnst Sur 2
55 Lo Hust 2
56 Room Sur
57 Room Sul A
58 Hall Sur
59 Room Sur 2
60 Lo Room 2
61 Super Pic
62 Spr pic Rm
63 Hi Picolo
64 Hi Pic Rm
65 Lo Picolo
66 Lo Pic Rm
67 Med Pic Rm
68 Nasty Sur
69 Nsty Sn Rm
70 Trshy Snr
71 Frnge Snr
72 Flange Su
73 Dry Flnge
74 Alloy Sur
75 Plate Snr
76 Plate Sn 2
77 Plate Sn 3
78 Hammr Snr
79 Rim 2 Cntr
80 Cntr 2 Rim
81 Hi Rad Snr
82 R ap Snaare
83 Lo Rap Snr
84 Hi Tite Sn
85 Tight Snr
86 Lo Tite Sn
87 Dyno Rim 1
88 Dyno Rim 2
89 Lo Dyno 2
90 Hi Pop Sht
91 Pop Shot
92 Lo Pop Sht
93 Tech Gate
94 Pop Room
95 Battr Rm
96 Brush Hit
97 Med Ballad
98 Big Ballad
99 Chrome Rm

100 Lo Chrome
101 Dyno Hi Sn
102 Shot Room
103 Brt pic Rm
104 Very Nsty
105Side Stik
106 Wet Side
107 lo Wet Sid
108 Pop Side
109 Closd Hat
110 Hard Hat
111 Edge Hat
112 Thiu Hat
113 Tight Hat
114 Small Hat
115 Dynmc Hat
116 Wet Hat 1
117 Wet Hat 2
118 Randm Hat
119 Wet Randm
120 Sweet Hat
121 Open Hat 1
122 Half Hat
123 Open Hat 2
124 Bakwz Hat
125 L 2 R Bk Hat
126 Lo Bkwz Ht
127 Back N 4th
128 Soft Ride
129 Hard Ride
130 Dynm Ride
131 Dyn Ride 2
132 Ride Bell
133 Flnge Ride
134 Crash 1
135 Crash 2
136 Crash 3
137 Cmbo Crsh
138 Chin Trsh
139 Flng Crsh
140 Hi Tom Dry
141 Md Tom Dry
142 Lo Tom Dry
143 Flr Tom Dry
144 Lo Flr Dry
145 hi Amb Tom
146 Md Amb Tom
147 Lo Amb Tom
148 Flr Amb Tm
149 Lo Flr Amb

150 Hi Room Tm
151 Md Room Tm
152 Lo Room Tm
153 Flr Rm Tom
154 Lo Flr Rm
155 Hi Hall Tm
156 Md Hall Tm
157 Lo Hall Tm
158 Flr Hl Tom
159 Lo Flr Hl
160 Hi Big Hl
161 Md Big Hl
162 Lo Big Hl
163 Flr Big Hl
164 Lo Fl Bg Hl
165 Hi Cannon
166 Md Cannon
167 Lo Cannon
168 Xtr Lo Can
169 Hi Cn Hall
170 Md Cn Hall
171Lo Cn Hall
172 X Lo Can Hl
173 Hi Elec Tm
174 Md Elec Tm
175 Lo Elec Tm
176 Hi El Rm Tm
177 Md El Rm Tm
178 Lo El Rm Tm
179 XL El Rm Tm
180 Hi Flat Tm
181 Md Flat Tm
182 Lo Flat Tm
183 Hi Fl Rm Tm
184 Md Fl Rm Tm
185 Lo Fl Rm Tm
186 Hi Fl Hl Tm
187 Md Fl Hl Tm
188 Lo Fl Hl Tm
189 Hi Flng Tm
190 Md Flng Tm
191 Lo Flng Tm
192 Tamborin
193 Shaker
194, Cnga + Slp
195 Lo Cng + Slp
196 Hi Conga
197 Lo Conga
198 Hi Cga Slp
199 Lo Cga Slp

200 Hi Timbli
201 Md Timbli
202, Lo Timbli
203 Hi Agogo
204 Lo Agogo
205 Hi Clave
206 Lo Clave
207 Wet Clave
208 Hi Cow Bl
209 Md Cow Bl
210 Lo Cow Bl
211 Hi Rap Cow
212 Md Rap Cow
213 Lo Rap Cow
214 Hi Block
215 Md Block
216 Lo Block
217 Fngr Snap
218 Wide Fngr
219 Fish Stk
220 Lo Fsh Stk
221 Wide Fish
222 Hi Claps
223 Lo Claps
224 Triangle
225 Cabasa
226 Hi Sticks
227 Lo Sticks
228 Bamboo
229 Bmbo Cmbo
230 Cold Blok
231 Rand Ryth
232 Fire Crkr
233 Impact

PRESET PATTERN TEMPOS

00	120	(110-130)
01	95	(80-90)
02	130	(125-135)
03	105	(100-110)
04	140	(135-145)
05	95	(90-95)
06	130	(125-135)
07	140	(135-150)
08	120	(115-125)
09	115	(110-120)
10	105	(100-115)
11	125	(120-130)
12	110	(100-120)
13	110	(105-115)
14	110	(100-120)
15	60	(55-70)
16	100	(95-115)
17	110	(100-115)
18	140	(130-145)
19	95	(90-100)
20	120	(110-130)
21	140	(135-150)
22	120	(120-130)
23	125	(120-130)
24	135	(130-140)
25	130	(120-140)
26	100	(95-110)
27	130	(120-140)
28	125	(115-135)
29	75	(70-90)
30	80	(70-90)
31	115	(105-130)
32	130	(115-140)
33	120	(115-135)
34	130	(120-140)
35	100	(95-110)
36	125	(115-130)
37	110	(110-120)
38	100	(90-110)
39	135	(130-140)
40	100	(90-110)
41	105	(95-120)
42	130	(120-140)
43	120	(115-130)
44	130	(120-135)
45	95	(80-110)
46	90	(85-100)
47	85	(80-100)
48	120	(100-130)
49	100	(90-110)

KEY FEATURES

- **8 natural feeling, velocity-sensitive drum pads**
- **Built-in professional drum machine so you can record and play back your own beats**
- **50 Preset / 50 User drum kits with 233 sounds assignable to any pad**
- **Built-in rhythm patterns to complement your playing**
- **Large LCD display with easy-to-navigate interface**
- **Dynamic Articulation stereo samples with reverb and ambience for realistic playing**
- **2 inputs for external kick and hi-hat pedals (sold separately)**
- **Stereo input to play along with your CD or MP3 player**
- **MIDI output to play external MIDI devices**
- **High-quality 24-bit stereo and headphone outputs**
- **Lightweight, durable enclosure**

TECHNICAL SPECIFICATIONS

Audio Outputs:	2 (stereo)
Pads:	8 velocity sensitive (w/Dynamic Articulation™)
Sample/DAC Bit Resolution	16/18
Sounds:	233
Sounds Accessible via Pads	8
Sounds Accessible via MIDI	120
Polyphony	16 voice
Panning	7-position user programmable
Velocity Response	8 loudness levels via pads, 127 via MIDI
Timing Resolution	96 ppq
Time Signature Range	1-128 beats per pattern
Tempo Range	20-255 bpm
Notes/Patterns/Songs	12,000/400 (200 user, 200 preset)/100
Kits	50 user, 50 preset
MIDI Prog Change Response	Kit
Sync	MIDI Clock/Song Position Pointer
Footswitch Jacks/Functions	Hi Hat
	Bass Drum
Aux Input	TRS 1/8”
Other Features	Sound stacking, step editing, stereo samples with reverb and ambience
Dynamic Articulation	Modulates tone
Power	9 VAC External Transformer, UL and CSA Approved

7-51-0243-A

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